



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,077	04/19/2004	Eugene A. Jackson	038190/273119	1888

826 7590 12/13/2005

ALSTON & BIRD LLP
BANK OF AMERICA PLAZA
101 SOUTH TRYON STREET, SUITE 4000
CHARLOTTE, NC 28280-4000

EXAMINER

ABOAGYE, MICHAEL

ART UNIT	PAPER NUMBER
----------	--------------

1725

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/827,077

Applicant(s)

JACKSON ET AL.

Examiner

Michael Aboagye

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>04/19/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page one line 18, replace "ensures the one or more components" with "ensures that one or more components". Appropriate correction is required.

Claim Objections

2. Claim 10 is objected to because of the following informalities: On the 3rd line change "adjacent an ultrasonic transducer" to "adjacent to an ultrasonic transducer" Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 5 - 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hall (US Patent No. 4478659).

Hall discloses an ultrasonic apparatus comprising: an ultrasonic transducer (12) adjacent the components (34, 32) with a horn located between the ultrasonic transducer and the component; a pair of magnetic source (14,16) providing a magnetic field

Art Unit: 1725

wherein the pair of magnetic source is proximate the ultrasonic transducer; wherein each of the pair of the magnetic source is proximate opposite sides of the ultrasonic transducer (see, Figure 1); a magnetic device (26,28) proximate the components to be welded and opposite the magnetic source and the ultrasonic transducer; wherein the magnetic field of the magnetic source supports the magnetic device so that the component is positioned between the ultrasonic transducer and the magnetic source.(attention is drawn to the fact that, the examiner considers the function of the magnets (26,28) in the Hall apparatus as equivalent to the ferromagnetic device as claimed, since the magnetic device (26,28) equally interacts similarly with the magnetic sources (14,16) as a ferromagnetic device to bring the welding anvil (22) into required proximity of the ultrasonic transducer,(see column 2, lines 25 – 37); wherein the magnetic source comprises an electromagnet which provides an adjustable magnetic field such that a change in the magnetic field of the magnetic source changes a compressive force the device applies to the component (see column 2, lines 50 – 58).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1725

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wannebo (US Patent No. 5749987) in view of Garrigus (US Patent No. 6180928).

Wannebo teaches an ultrasonic welding apparatus and method for joining components comprising: an ultrasonic transducer (1) which comprises a horn (2) located between the ultrasonic transducer and the components (5 & 6); a spherical anvil roll (3) opposite the component from the ultrasonic transducer; wherein the components are positioned between the ultrasonic transducer and the anvil roll; wherein the anvil roll defines a generally spherical outer surface that supports the components and engages the components against the ultrasonic horn during welding; advancing the component relative to the ultrasonic transducer as the ultrasonic transducer transmits the ultrasonic signal to define a joint along the component. (Figure1, abstract; column 1, line 54 – column 2, line 44).

Wannebo does not expressly teach a magnetic source providing a magnetic field, wherein the magnetic source is proximate the ultrasonic transducer; and a ferromagnetic device opposite the component from the magnetic source and the ultrasonic transducer; wherein the magnetic field of the magnetic source supports the ferromagnetic device so that the component is positioned between the ultrasonic transducer and the ferromagnetic device; electromagnetic source with an adjustable magnetic field, such that a change in the magnetic field of the magnetic source changes a compressive force the ferromagnetic device applies to the component.

However, Garrigus teaches a switchable magnetic clamp for applying orthogonal pressure to a part that may be formed of one or more pieces. The device comprising a permanent magnet(s) (23a & 23b, see figure 3) or an electromagnet(s) with an adjustable magnetic field, a rare earth metal plate (ferromagnetic plate (27, see figure 3)); wherein magnets are located on one side of the parts (33a & 33b, see figure 3) and the ferromagnetic plate located on the opposite side; wherein the ferromagnetic properties of the ferromagnetic plate interact with the magnetic field produce by the magnet(s) to create a large magnetic force between the magnet(s) and the ferromagnetic plate, thereby applying a compressive force to the part and supporting the parts there between; wherein adjusting the magnetic field force means adjusting the compressive force applied on the parts (Garrigus, figure 3; column 3, lines 17 – 35; column 8, line 20 – column 10, line 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the anvil roll support fixture of Wannebo with a

Art Unit: 1725

magnetic clamp in view of the teachings of Garrigus, so that the components to be joined by ultrasonic welding may be supported (clamped) and compressed between the ultrasonic horn and the ferromagnetic device to allow them to be welded (Garrigus, column 3, lines 17 – 35).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jang (US 5699950), Gore et al. (US 5598964), Meyer (US 1452841), Lake et al. (US 6607304), Mlinar et al. (US 6634539) and Belcher et al. (US 5460320) are also cited on PTO- 892.

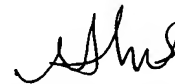
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Aboagye whose telephone number is 571-272-8165. The examiner can normally be reached on Mon - Fri 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1725

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AM
AM



Michael Aboagye
Assistant Examiner
Art Unit 1725

12/02/2005

KEVIN KERNS
PRIMARY EXAMINER

Kevin Kerns 12/2/05